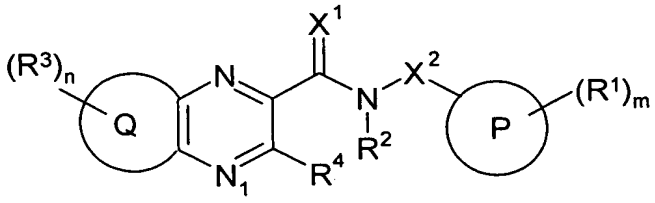
CLAIMS

1. A compound having the formula I



(I)

wherein:

X^1 is O or S;

X^2 is a bond or C_{1-3}alkyl;

P is C_{3-7}cycloalkyl or C_{4-7}cycloalkenyl;

R^1 is hydrogen, C_{1-6}alkyl, cyano, halogen and C_{1-6}alkylhalo, and one or more R^1 may be connected to each other or to one of the atoms that constitutes P to form a bridge or spirocyclo;

R^2 is hydrogen, C_{1-3}alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, methoxy, fluoromethoxy, difluoromethoxy, trifluoromethoxy, C_{0-3}alkylamino, C_{0-3}alkylhydroxy or C_{0-3}alkyldimethylamino;

R^4 is hydrogen, C_{1-3}alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, methoxy, fluoromethoxy, difluoromethoxy, trifluoromethoxy, C_{0-3}alkylamino, C_{0-3}alkylhydroxy or C_{0-3}alkyldimethylamino;

Q is a ring containing 4, 5, 6 or 7 atoms independently selected from C, S, O and N, which may be saturated or partially unsaturated and said ring may further contain groups independently selected from SO, SO_2, CO, cyano and CS;

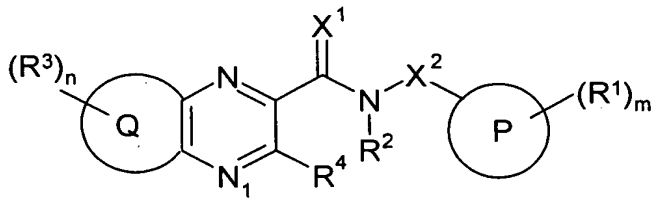
R^3 is hydrogen, hydroxy, halogen, nitro, cyano, OC_{1-3}alkylhalo, C_{1-3}alkylhalo, C_{1-3}alkyl, C_{1-3}alkoxyC_{0-3}alkyl, , C_{0-3}alkylOC_{2-4}alkanol C_{1-3}alkanol, amino, C_{1-3}alkylaminoC_{0-3}alkyl, $(C_{1-3}alkyl)_2$aminoC_{0-3}alkyl, amide, C_{1-3}alkylamideC_{0-3}alkyl or $(C_{1-3}alkyl)_2$amideC_{0-3}alkyl;

n is 0, 1, 2, 3 or 4; and

m is 0, 1, 2, 3 or 4;

or N_1-oxides, salts, solvates or solvated salts thereof.

2. A compound having the formula I



(I)

wherein:

X^1 is O or S;

X^2 is a bond or C_{1-3}alkyl;

P is C_{3-7}cycloalkyl or C_{4-7}cycloalkenyl;

R^1 is hydrogen, C_{1-6}alkyl, cyano, halogen and C_{1-6}alkylhalo, and one or more R^1 may be connected to each other or to one of the atoms that constitutes P to form a bridge or spirocyclo;

R^2 is hydrogen, C_{1-3}alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, methoxy, fluoromethoxy, difluoromethoxy or trifluoromethoxy;

R^4 is hydrogen;

Q is a ring containing 4, 5, 6 or 7 atoms independently selected from C, S, O and N, which may be saturated or partially unsaturated and said ring may further contain groups independently selected from SO, SO_2, CO, cyano and CS;

R^3 is hydrogen, hydroxy, halogen, nitro, OC_{1-3}alkylhalo, C_{1-3}alkylhalo, C_{1-3}alkyl, C_{1-3}alkoxyC_{0-3}alkyl, C_{1-3}alkanol, cyano, amino or amide;

n is 0, 1, 2, 3 or 4; and

m is 0, 1, 2, 3 or 4;

or N_1-oxides, salts, solvates or solvated salts thereof.

3. The compound according to any one of claims 1 or 2, wherein P is C_{3-7}cycloalkyl substituted with one or more R^1, wherein R^1 is hydrogen, C_{1-6}alkyl, cyano, halogen or C_{1-6}alkylhalo, and one or more R^1 may be connected to each other or to one of the atoms that constitutes P to form a bridge or spirocyclo.

4. The compound according to claim 3, wherein P is C_{5-7}cycloalkyl substituted with one or more R^1, wherein R^1 is methyl.

5. The compound according to any one of claims 1 to 4, wherein X^1 is oxygen.

6. The compound according to any one of claims 1 to 5, wherein X^2 is a bond.

7. The compound according to any one of claims 1 to 6, wherein R^2 is hydrogen.

8. The compound according to any one of claims 1 to 7, wherein R^4 is hydrogen or methyl.

9. The compound according to any one of claims 1 to 8, wherein Q is a ring containing 5, 6 or 7 atoms independently selected from C, O and N, which may be saturated or partially unsaturated.

10. The compound according to any one of claims 1 to 9, wherein R^3 is hydrogen, hydroxy, halogen, cyano, C_{1-3}alkyl or C_{1-3}alkoxyC_{0-3}alkyl.

11. The compound according to any one of claims 1 to 10 having a trans-relationship between R^1 and X^2 on ring P, when P is cyclohexane and R^1 and X^2 is attached to P at position 4 and 1 respectively.

12. The compounds
N-(trans-4-methylcyclohexyl)-5,6,7,8-tetrahydroquinoxaline-2-carboxamide,
N-(4,4-dimethylcyclohexyl)-5,6,7,8-tetrahydroquinoxaline-2-carboxamide,
or salts, solvates or solvated salts thereof.

13. The compounds
N-(4,4-dimethylcyclohexyl)-3-methyl-5,6,7,8-tetrahydroquinoxaline-2-carboxamide,
8-methyl-N-(trans-4-methylcyclohexyl)-5,6,7,8-tetrahydroquinoxaline-2-carboxamide,
7-hydroxy-5,7-dimethyl-N-(trans-4-methylcyclohexyl)-6,7-dihydro-5H-cyclopenta[b]pyrazine-2-carboxamide,

N-(trans-4-methylcyclohexyl)-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyrazine-2-carboxamide,
7-methyl-N-(trans-4-methylcyclohexyl)-5,6,7,8-tetrahydroquinoxaline-2-carboxamide,
6-methyl-N-(trans-4-methylcyclohexyl)-5,6,7,8-tetrahydroquinoxaline-2-carboxamide,
N-(trans-4-methylcyclohexyl)-6,7-dihydro-5H-cyclopenta[b]pyrazine-2-carboxamide,
N-(trans-4-methylcyclohexyl)-7,8-dihydro-5H-pyrano[3,4-b]pyrazine-2-carboxamide,
N-(trans-4-methylcyclohexyl)-7,8-dihydro-5H-pyrano[3,4-b]pyrazine-3-carboxamide,
7-hydroxy-N-(trans-4-methylcyclohexyl)-5,6,7,8-tetrahydroquinoxaline-2-carboxamide,
6-hydroxy-N-(trans-4-methylcyclohexyl)-5,6,7,8-tetrahydroquinoxaline-2-carboxamide,
N-(4,4-dimethylcyclohexyl)-5,6,7,8-tetrahydroquinoxaline-2-carboxamide 4-oxide and
6,7-dimethyl-N-(4-methylcyclohexyl)-6,7-dihydro-5H-cyclopenta[b]pyrazine-2-carboxamide,
or salts, solvates or solvated salts thereof.

14. A pharmaceutical composition comprising as active ingredient a therapeutically effective amount of the compound according to any one of claims 1 to 13, in association with one or more pharmaceutically acceptable diluent, excipients and/or inert carrier.

15. The pharmaceutical composition according to claim 14, for use in the treatment of Group I mGluR mediated disorders.

16. The compound according to any one of claims 1 to 13, for use in therapy.

17. The compound according to any one of claims 1 to 13, for use in treatment of Group I mGluR mediated disorders.

18. Use of the compound according to any one of claims 1 to 13, in the manufacture of a medicament for the treatment of Group I mGluR mediated disorders.

19. A method of treatment of Group I mGluR mediated disorders, comprising administrering to a mammal, including man in need of such treatment, a therapeutically effective amount of the compound according to any one of claims 1 to 13.

20. The method according to claim 19, for use in treatment of neurological disorders.

21. The method according to claim 19, for use in treatment of psychiatric disorders.

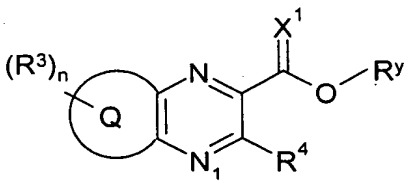
22. The method according to claim 19, for use in treatment of chronic and acute pain disorders.

23. The method according to claim 19, for use in treatment of gastrointestinal disorders.

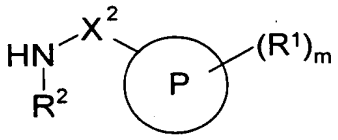
24. A method for inhibiting activation of Group I mGluR receptors, comprising treating a cell containing said receptor with an effective amount of the compound according to claim 1 or 2.

25. Processes for the preparation of the compound according to claim 1 or 2, wherein P, Q, X^1, X^2, R^1, R^2, R^3, R^4, m and n are, unless otherwise specified, defined as in formula I, comprising of:

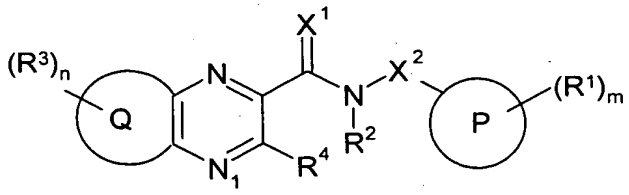
A



(VII)



(XIV)

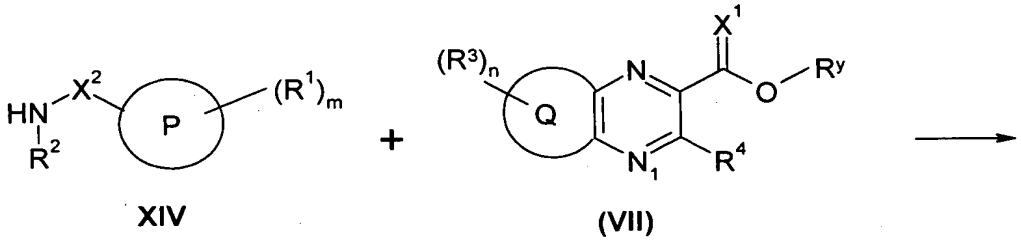


(I)

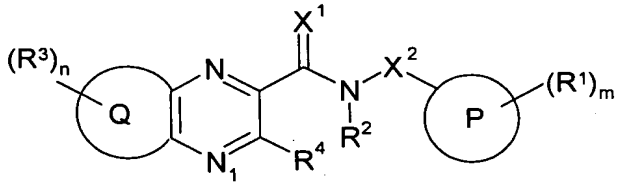
reacting a compound of formula VII, wherein R^y is H, with an activating agent followed by the treatment of the resulting acid halide, or otherwise to nucleophiles activated acid derivative, with an amine of formula XIV, to obtain the compound of formula I,

alternatively,

B



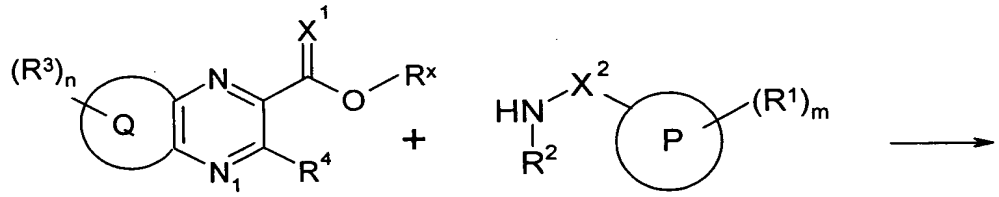
XIV **(VII)**



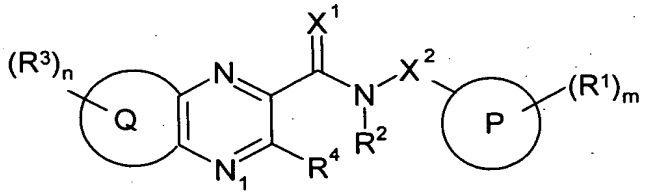
(I)

reacting an amine of formula XIVwith the compound of formula VII, wherein R^y is H, to obtain the compound of formula I, or

C



(VIa) **(XIV)**

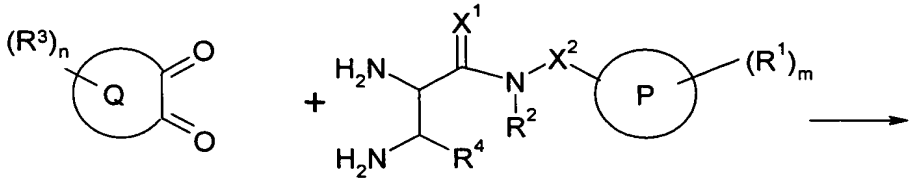


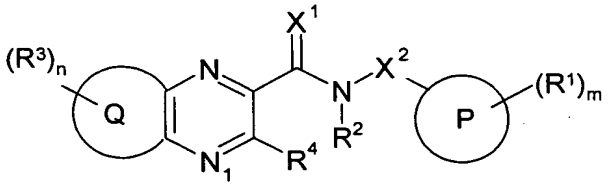
(I)

reacting a compound of formula VIa or the N_1-oxide thereof, wherein R^x is $C_{1\text{-}6}$ alkyl, with the appropriate amine such as the compound of formula XIV, to obtain the compound of formula I,

or,

D





direct condensation of intermediates of formula IV and XVb, to obtain the compound of formula I.

26. Compounds
5,6,7,8-tetrahydro-quinoxaline-2-carboxylic acid methyl ester and
5,6,7,8-tetrahydro-quinoxaline-2-carboxylic acid.

27. Compounds
3-methyl-5,6,7,8-tetrahydro-quinoxaline-2-carboxylic acid ethyl ester,
3-methyl-5,6,7,8-tetrahydro-quinoxaline-2-carboxylic acid,
2,3-diamino-N-(4-methyl-cyclohexyl)-propionamide,
4-(tert-butyl-diphenyl-silanyloxy)-cyclohexane-1,2-dione,
6,7-dimethyl-6,7-dihydro-5H-cyclopentapyrazine-2-carboxylic acid methyl ester,
5,6,7,8-tetrahydro-quinoxaline-2-carboxylic acid methyl ester and
5,6,7,8-tetrahydro-quinoxaline-2-carboxylic acid.

28. The compounds according to claims 26 and 27, for use as an intermediate in the preparation of the compound according to claim 1.